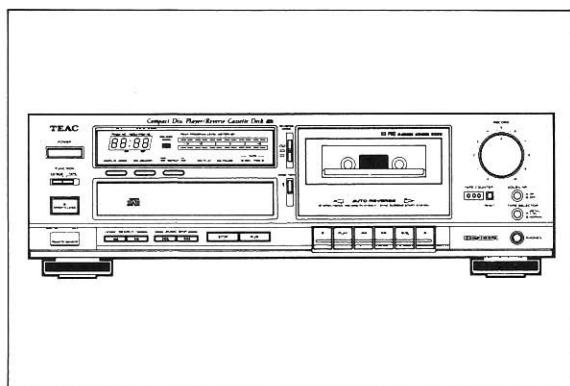


COMPACT
disc
DIGITAL AUDIO

AD-400

Compact Disc Player / Stereo Cassette Deck



OWNER'S MANUAL

Thanks for buying a TEAC.

Read this manual carefully to get the best performance from this unit.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model number _____

Serial number _____

**WARNING: TO PREVENT FIRE OR SHOCK
HAZARD, DO NOT EXPOSE THIS
APPLIANCE TO RAIN OR MOISTURE.**

SAFETY INSTRUCTIONS

CAUTION:

- **Read all of these instructions.**
- **Save these instructions for later use.**
- **Follow all warnings and instructions marked on the audio equipment.**

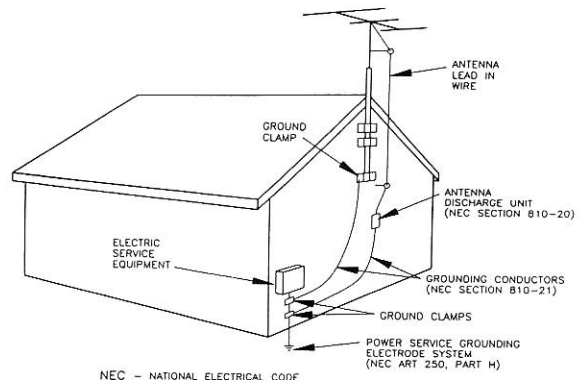
1. **Read Instructions** - All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** - The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** - All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** - All operating and use instructions should be followed.
5. **Water and Moisture** - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. **Carts and Stands** - The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



7. **Wall or Ceiling Mounting** - The appliance should be mounted on a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9. **Heat** - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Grounding or Polarization** - Precautions should be taken so that the grounding or polarization of the appliance is not defeated.
12. **Power-Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** - The appliance should be cleaned only as recommended by the manufacturer.
14. **Power Lines** - An outdoor antenna should be located away from power lines.
15. **Outdoor Antenna Grounding** - If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 - 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure below.

EXAMPLE OF ANTENNA GROUNDING
AS PER NATIONAL
ELECTRICAL CODE



(Continued on page 4)

16. **Nonuse Periods** - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
17. **Object and Liquid Entry** - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
18. **Damage Requiring Service** - The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
19. **Servicing** - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

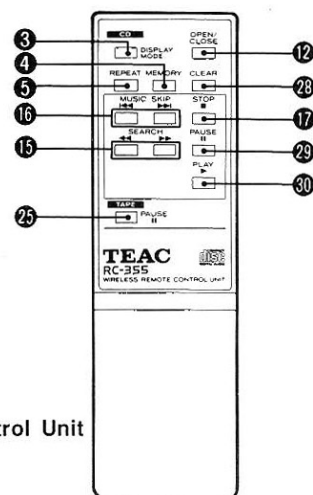
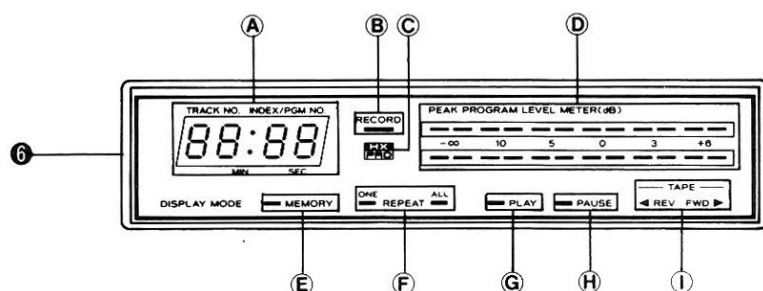
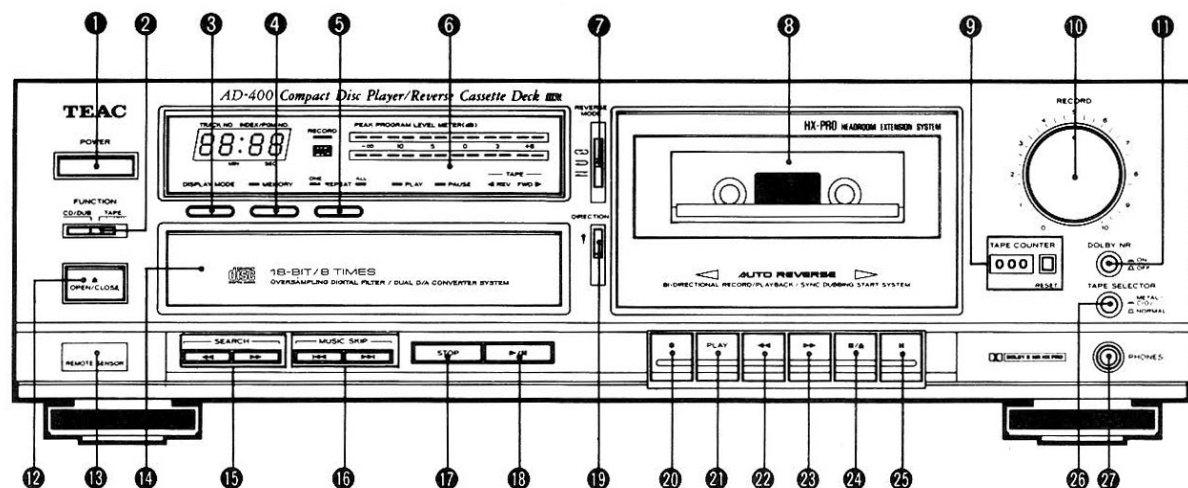


The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

REFERENCE ILLUSTRATIONS



Remote Control Unit
(RC-355)

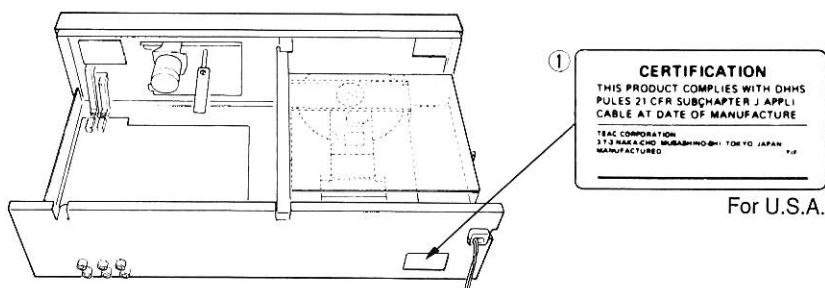
- 1 POWER Switch
- 2 FUNCTION Select Switch
- 3 DISPLAY MODE Select Button
- 4 MEMORY Button
- 5 REPEAT Button
- 6 Multi-Function Display Window
 - A (TRACK NO., INDEX/PGM NO., MIN SEC) Display
 - B RECORD Indicator
 - C HX PRO Indicator
 - D PEAK PROGRAM LEVEL METER (dB)
 - E MEMORY Indicator
 - F REPEAT Indicators
 - G PLAY Indicator
 - H PAUSE Indicator
 - I Direction Indicators
- 7 REVERSE MODE Switch
- 8 Cassette Holder
- 9 TAPE COUNTER and RESET Button
- 10 RECORD Level Control

- 11 DOLBY NR Button
- 12 OPEN/CLOSE (▲) Button
- 13 REMOTE SENSOR
- 14 Disc Tray
- 15 SEARCH Buttons (◀◀ / ▶▶)
- 16 MUSIC SKIP Buttons (◀◀ / ▶▶)
- 17 STOP Button (■)
- 18 PLAY/PAUSE Button (▶/||)
- 19 DIRECTION Select Switch
- 20 RECORD (●) Button
- 21 PLAY Button
- 22 Rewind Button (◀◀)
- 23 Fast Forward Button (▶▶)
- 24 STOP/EJECT Button (■/▲)
- 25 PAUSE Button (||)
- 26 TAPE SELECTOR Button
- 27 PHONES Jack
- 28 CLEAR Button
- 29 PAUSE Button (||)
- 30 PLAY Button (▶)

SAFETY INFORMATION

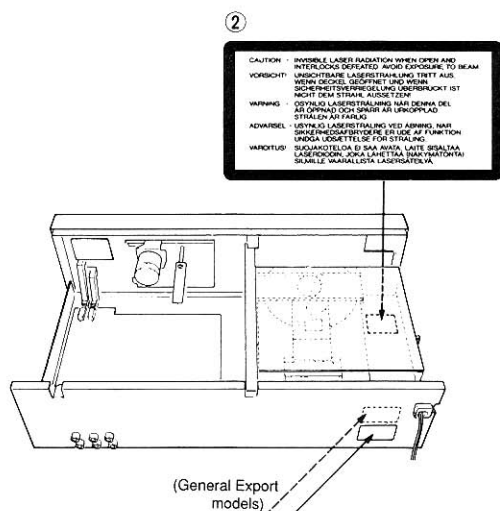
The label required by this regulation is shown ①.

- DO NOT REMOVE THE PROTECTIVE HOUSINGS USING A SCREWDRIVER.
- USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
- IF THIS PRODUCT DEVELOPS TROUBLE, CONTACT A TEAC SERVICEMAN, AND DO NOT USE THE PRODUCT WHILE THE TROUBLE PERSISTS.



Optical pickup:	Type:	KSS-150A/KSS-210A
	Manufacturer:	SONY Corporation
	Laser output:	Less than 0.4 mW at objective lens
	Wavelength:	760 - 800 nm

• CAUTION • ACHTUNG • OBSERVERA • ADVARSEL



(General Export
models) ✓

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

① THIS LABEL IS ATTACHED TO THE PLACE AS ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.

① DIESE AUFKLEBEMARKE IST AN DEM IN DER ABBILDUNG GEZEIGTEN ORT ANGEBRACHT UM DARAUF HINZUWEISEN, DASS IM INNERN DES GERÄTS EINE LASER-KOMPONENTE BEFINDET.

① PÅSKRIFTEN SITTER PÅ APPARATEN SOM VISAS SOM UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.

① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

② DETTE MÆRKAT ER SOM VIST PÅ ILLUSTRATIONEN ANBRAGT PÅ INDERSIDEN AF TOPDÆKSLET FOR AT ADVARE BRUGEREN OM AT YDERLIGERE FREMTRÆNGEN VIL VÆRE FORBUNDET MED FARE FOR AT UDSÆTTE SIG FOR LASERSTRÅLING.

ADVARSEL – BETJENING AF ANDRE KONTROLLER OG REGULATORER ELLER
BENYTTELSE AF ANDRE FREMGANGSMÅDER END BESKREVET HERI ER FOR-
BUNDET MED FARE FOR UDSÆTTELSE FOR LASERSTRÅLING.

VARNIG: APPARATEN INNEHÅLLER LASER KOMPONENT MED STRÅLNING ÖVERSTIGANDE KLAS 1

"ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING NAR
SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ
UDSAETTELSE FOR STRÅLING"

"VAROITUS! SUOJAKOTELOA EI SAA AVATA. LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ".

PRECAUTIONS

General Attention

- Choose the location where your AD-400 will be installed carefully. Avoid placing it in direct sunlight or close to a source of heat. Also avoid locations subject to vibrations and excessive dust, heat, cold or moisture. Avoid use where power line voltage fluctuations are severe (the use of a voltage regulator may be advisable). Keep away from sources of electric hum such as transformers and motors.
- Do not open the cabinet as this may result in damage or an electrical shock. If a foreign object should get into the set, contact your dealer.
- When removing the power plug from the wall outlet, always pull the plug directly, never the cord.
- When moving the set, be sure to first pull out the power plug and remove cords connecting it to other equipment.
- To keep the laser-pickup clean, do not touch it, and do not forget to close the disc tray.
- Do not attempt to clean the AD-400 with chemical solvents as this might damage its finish. Use a clean, dry cloth.

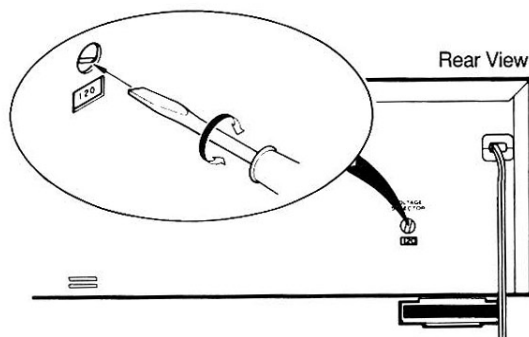
Beware of condensation (For CD player)

When the player (or a compact disc) is moved from a cold to a warm place or used after a sudden temperature change, there is the danger of condensation. Water vapor in the air could condense on the mechanism or the laser pickup. If droplets of water form on these parts, correct playback will be impossible because the laser will not read the information from the disc correctly. To prevent this, if you are going to use the player in a condition where condensation could occur, after plugging into an AC outlet you should wait 1 or 2 hours (depending on the amount of condensation) so that the player will stabilize at the temperature of its surroundings.

Voltage Conversion (For general export models)

If it is necessary to change the voltage at which the AD-400 will be used to match your area, use the following procedure.

1. DISCONNECT POWER LINE CORD.
2. Using a screwdriver, turn the selector until the desired voltage marking appears.



IMPORTANT (for U.K. Customers)

The wires in this mains lead are coloured in accordance with the following code:

BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

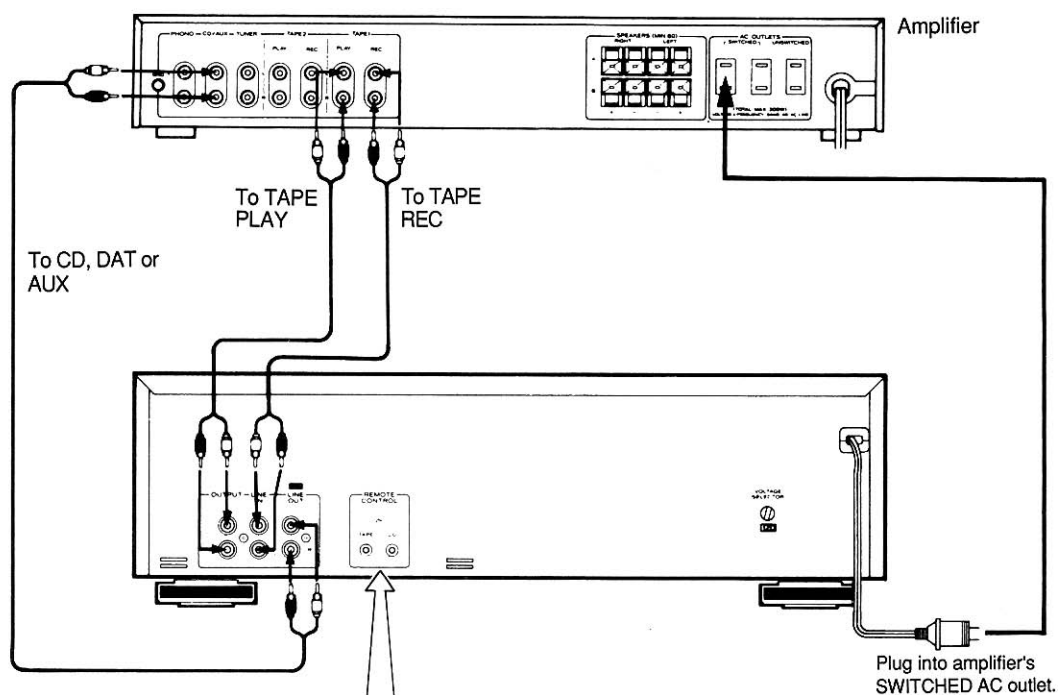
In the U.K., this unit is sold without an AC plug.

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

CONNECTIONS

- Before connection, turn off all components and pay special attention to left (L) and right (R) channel indications.
- Do not connect the AD-400 to your amplifier's PHONO input terminals.
- If the CD player of this unit interferes with a TV set or tuner, install at a reasonable distance from them.
- Read the owner's manual of each component you intend to use with this unit.

- **OUTPUT Terminals:** output the signal selected by the FUNCTION selector (compact disc or cassette deck tape signal). Note that as mentioned above, it is not necessary to use the CD LINE OUT terminals.
- **CD LINE OUT Terminals:** always output the disc signal regardless of the setting of the FUNCTION selector.

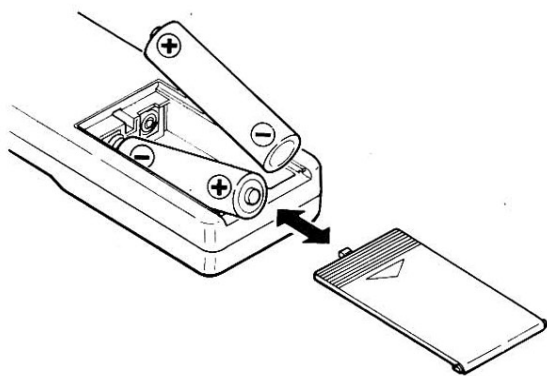


UR (Unified Remote Control) Terminals: This terminal is used to connect to TEAC receivers or amplifiers with a "UR" mark. If this terminal is used, refer to the owner's manuals of these components.

REMOTE CONTROL UNIT

Battery Replacement

1. Remove the lid.
2. Insert two "AA" batteries. Be sure that the batteries are inserted with the negative and positive terminals positioned correctly.
3. Close the lid (it clicks into place).



How often should the batteries be changed?

The batteries will normally last about six months. However if you notice that the distance between the remote control unit and the AD-400 required for operation becomes shorter, the batteries should be changed. Replace the batteries with two new ones.

Precautions regarding batteries

- Be sure to insert the batteries with the positive (+) and negative (-) terminals positioned correctly.
- Replacement batteries should be of the same type. Never use batteries of different types together.
- Rechargeable and non-rechargeable batteries can be used. Refer to their precaution labels.
- Remove the batteries from the remote control unit when it will not be used for a long period of time.
- When the batteries are weak, replace them as soon as possible.
- Do not heat or disassemble batteries and do not dispose of them by throwing them into a fire.

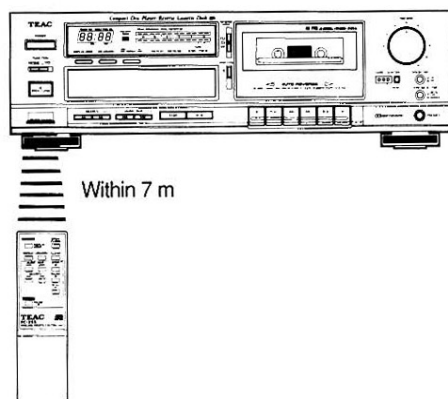
Remote Controlled Operation

When operating the remote control, point it at the REMOTE SENSOR of the AD-400. The remote control unit may be used within the range shown in the figure below.

CAUTION

Operation using the Remote Control Unit's PAUSE (||) button differs from the AD-400's Play/Pause (▶/||) button. If the remote control unit's button has been pressed to set to the pause mode, press this button again to release the pause mode.

If the AD-400's button has been used, press it again to release the pause mode.



Notes:

- Even if the remote control unit is operated within the effective range, remote control operation may be impossible if there is any obstruction between the AD-400 and the remote control unit.
- If the unit is operated in the vicinity of other appliances generating infrared rays, or if other remote control devices using infrared rays are used near the AD-400, the unit may operate improperly. Conversely, if the AD-400's remote control unit is operated in the vicinity of other appliances which use an infrared remote control device, the other appliance may operate improperly.
- When the unit will not be used for a long period of time (more than one month), remove the batteries to prevent them from leaking. If leakage should take place, wipe away the liquid inside the compartment and replace the batteries with new ones.
- Do not place books or other objects on the remote control unit since they might depress the buttons and run down the batteries.

CD PLAYER OPERATION

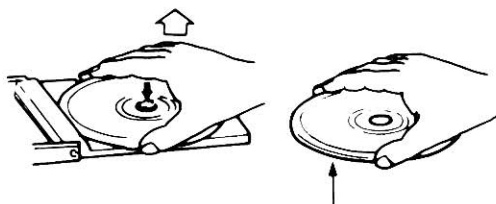
Handling Discs

This unit has been designed specifically for the reproduction of compact discs with the "CD" mark. No other discs can be played.

Removing from Case

- To remove a disc from its storage case, press down on the center of the case and lift the disc out, holding it carefully by its edges.

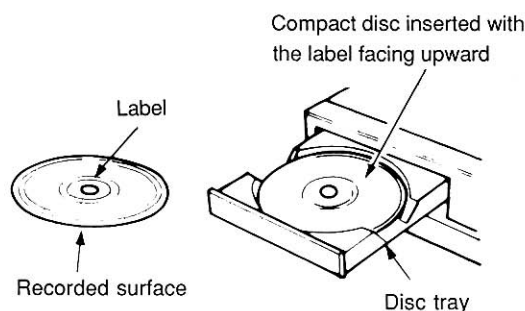
Correct way to hold a compact disc



The recorded signal is on the bottom surface

Placing in the Disc Tray

- Always place the compact disc in the disc tray with the label facing upward. (Compact discs can be played only on one side.)

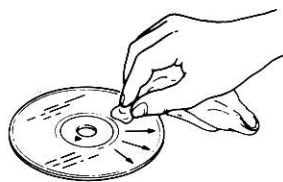


- Never insert a disc which has a crack in its surface.

Disc Care

- Fingerprints and dust should be carefully wiped off the disc's recorded surface with a soft cloth. Wipe with a straight motion from the inside to the outside of the disc.

Wipe off radially

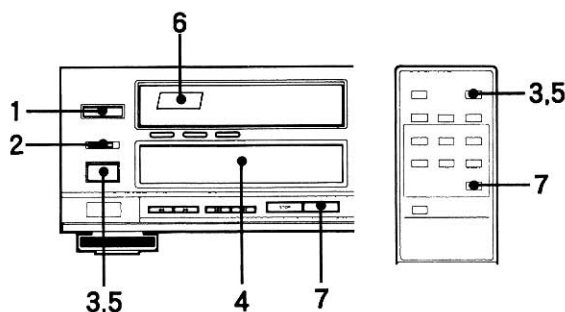


- Never use such chemicals as record sprays, antistatic sprays or fluid, benzine or thinner to clean compact discs. Such chemicals will do irreparable damage to the disc's plastic surface.

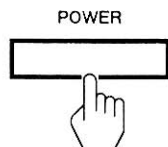
Notes on Disc Storage

- Discs should be returned to their cases after use to avoid serious scratches that could cause the laser pickup to skip.
- Do not expose discs to direct sunlight or high humidity and temperature for extended periods. Long exposure to high temperatures can warp the disc.
- Do not stick paper or write anything on the label side.

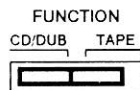
Basic Operation



1. Press the POWER switch to ON.



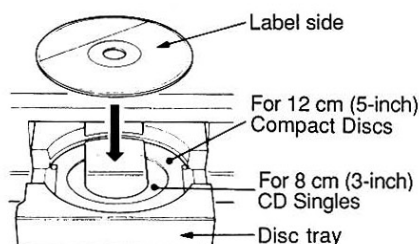
2. Set the FUNCTION select switch to the CD/DUB position.



3. Press the OPEN/CLOSE button to open the disc tray.



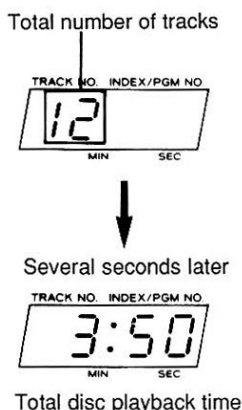
4. Place the disc on the tray.



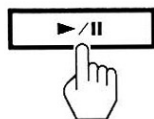
5. Press the OPEN/CLOSE button again to close the disc tray.



6. The display shows the following.



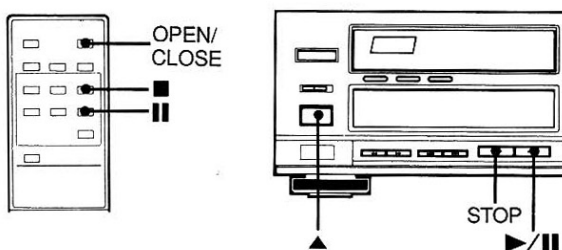
7. Press the PLAY/PAUSE button to start disc playback. The PLAY indicator will light.



Even if the disc tray is open....

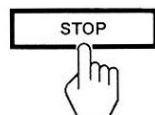
If the PLAY button is pressed, the tray will be closed and playback will start from the first track.

To stop playback



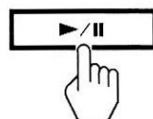
• To stop playback

Press the STOP button.



• To pause during playback

Press the PLAY/PAUSE button (or the PAUSE button on the remote control unit). The PAUSE indicator will light.



• To remove the disc

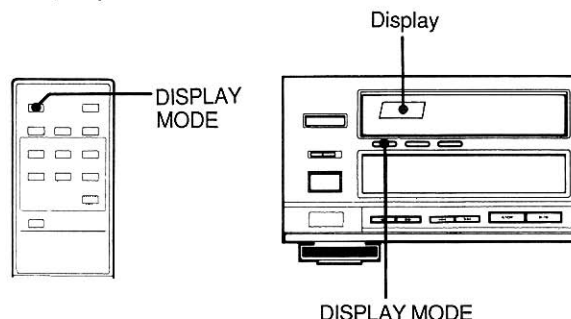
Press the OPEN/CLOSE button to open the disc tray.



CAUTIONS:

- Do not insert any objects other than discs into the tray as this can damage the mechanism.
- Do not force the tray by hand during opening and closing operations.
- Do not leave the disc tray open when the player is not in use to prevent dirt and dust from entering the mechanism.

(TRACK NO., INDEX/PGM NO., MIN SEC) Display



When the disc tray is closed (with a disc loaded)

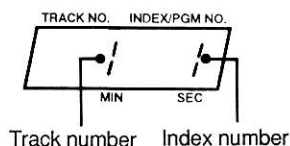
Refer to steps 5 and 6 of "Basic Operation" on page 10.

During playback

Each time the DISPLAY MODE button is pressed, the time mode changes cyclically in the following order.

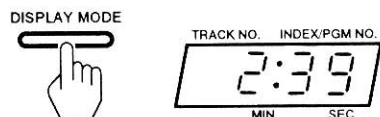
1. Track/Index Number Display

During Playback, the display shows the following information.



2. Elapsed Playback Time

Press the DISPLAY MODE button.



EX: 2 minutes 39 seconds of the current track have elapsed.

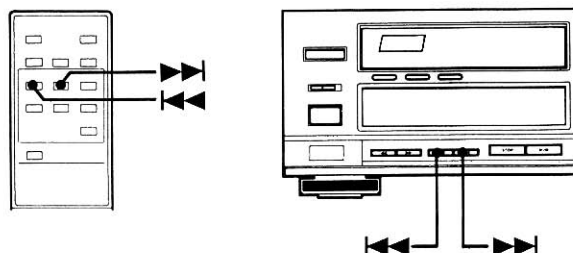
3. Total Remaining Time Display

Press the DISPLAY MODE button a second time.



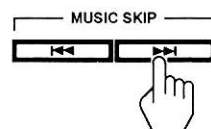
EX: 43 minutes 50 seconds remain to the end of the disc.

Music Skip Operation (To Search to the Beginning of a Track)

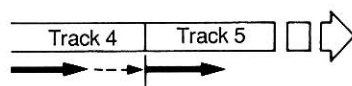


To skip to the next track

During playback, press the ►► button. Each time the button is pressed, the player will skip ahead to the next track.



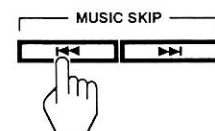
Example: To skip ahead to the beginning of the 5th track while the 4th track is being played.



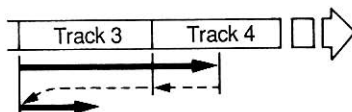
Press the "►►" button.

To skip back to the previous track

During playback, press the ◀◀ button, the player will skip back to the beginning of the current track. Every time the button is pressed, the player will skip back one track.



Example: To skip back to the beginning of the 3rd track while the 4th track is being played.



Press the "◀◀" button twice.

• During program playback

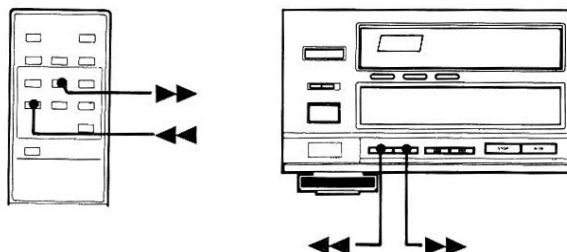
Only programmed tracks are detected.

• To start playback from the desired track

If, during the stop mode, the desired track is selected using the MUSIC SKIP buttons then PLAY button is pressed, playback will start from the track which is displayed.

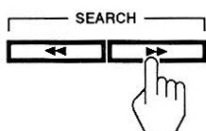
Music Search Operation (To search the desired track)

The speeded-up music can be heard at a low volume; this makes it easy to locate the position you want to listen to.



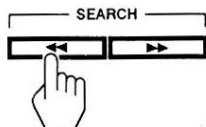
To search in the Forward Direction

During playback, press the ►► button. While the button is held down, the pickup will move quickly in the forward direction.



To Search in the Reverse Direction

During playback, press the ◄◄ button. While the button is held down, the pickup will move quickly in the reverse direction.



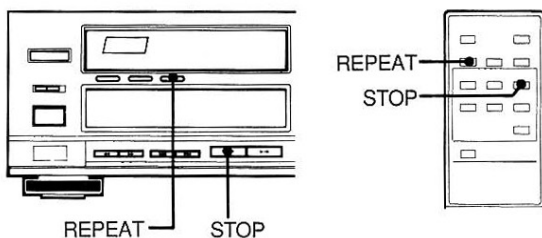
• During program playback

In the program playback mode, holding the ◄◄ or ►► button will move to the next or previous programmed track, respectively.

• Search stops at the end or beginning of the disc

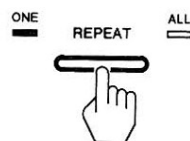
During the normal play mode (or in the programmed playback mode), when the player reaches the end or beginning of the disc (or program) by pressing the ►► or ◄◄ button, the player enters the pause mode at a position several seconds before the end of the disc, or at the beginning of the disc.

Repeat Playback



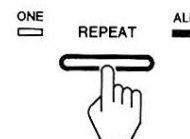
To repeat one track

During playback, press the REPEAT button. The ONE REPEAT indicator will light.



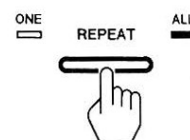
To repeat an entire disc

During playback, press the REPEAT button twice. The ALL repeat indicator will light.



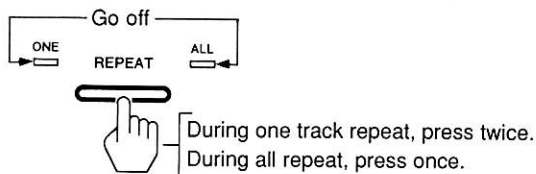
To repeat programmed tracks

During programmed playback, press the REPEAT button twice. The ALL repeat indicator will light.

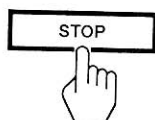


● **To release repeat playback**

- a) Press the REPEAT button so that both REPEAT indicators go out. If this is done during playback, the player will continue normal playback.

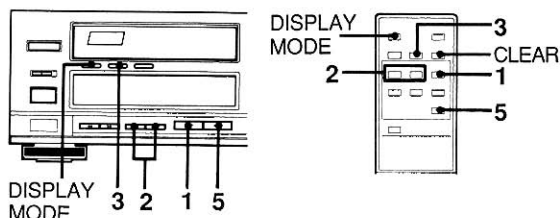


- b) Press the STOP button; the player will enter the stop mode.

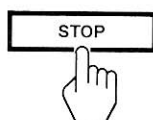


Program Playback

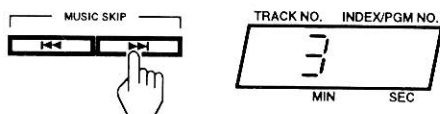
The program playback function allows you to program tracks to be played back in any desired order.



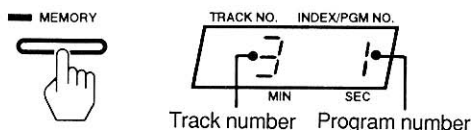
1. Press the STOP button.



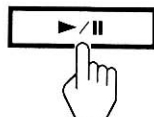
2. Press the MUSIC SKIP button to select the desired track.



3. Press the MEMORY button to store the desired track.
The MEMORY indicator will light.



4. Repeat procedures 2. and 3. to program the remaining tracks. Up to 20 tracks can be programmed.
5. Press the PLAY/PAUSE button to start programmed playback.
The programmed tracks are played in the order in which they were programmed.



6. Program playback is completed and all programmed contents are cleared.

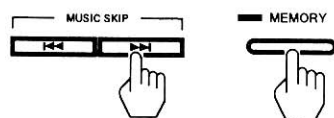
Changing the Program

The following steps can be performed only when the player is in the stop mode.

1. Press the CLEAR button. Every time the button is pressed, the tracks will be deleted from the last track in sequence.

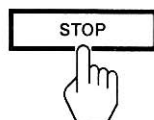


2. Select a new track using the MUSIC SKIP buttons then press the MEMORY button to store it in memory.



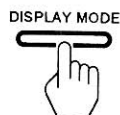
Clearing Program Playback

Press the STOP button. The player will stop and the programmed contents will be completely erased.



● **To see the total playback time of all programmed tracks**

Press the DISPLAY MODE button. If 21 or more tracks are stored in memory, the total playback time cannot be displayed.



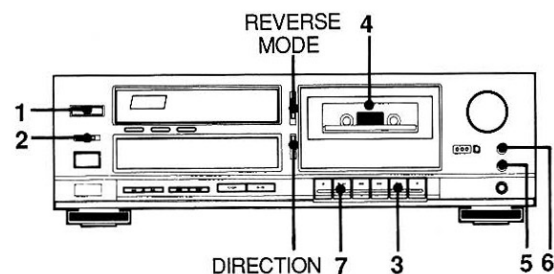
CASSETTE DECK OPERATION

Handling Tapes

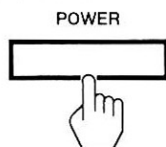
Do not store tapes in the following places:

- On top of heaters, exposed to direct sunlight or in any other places with high temperatures.
- Near speakers, on TV sets or amplifiers, or where they would be exposed to strong magnetic fields.
- Where humidity is high and in dirty, dusty places.
- Avoid dropping or subjecting cassettes to excessive shocks.
- As C-120 tapes are physically weak and could become entangled in the transport mechanism, do not use them.

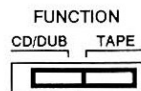
Playback



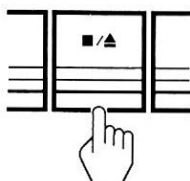
1. Press the POWER switch to ON.



2. Set the FUNCTION select switch to the TAPE position.



3. Press the STOP/EJECT button to open the cassette holder.



4. Load a pre-recorded cassette with its open edge facing down and side A facing toward you.

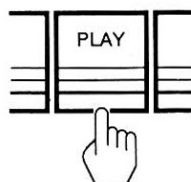
5. Set the TAPE SELECTOR button according to the type of tape being used.



6. If a Dolby NR-encoded tape has been loaded. Press the DOLBY NR button to ON.



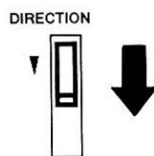
7. Press the PLAY button. Playback will be performed in the direction shown by the Direction indicator which lights.



To Change the Side of the Tape being Played

Press the DIRECTION switch. Every time the switch is operated, the direction indicator which is lit changes between ◀ and ▶.

- ▶: Playback starts from side A (the side facing toward you).
- ◀: Playback starts from side B (the other side)



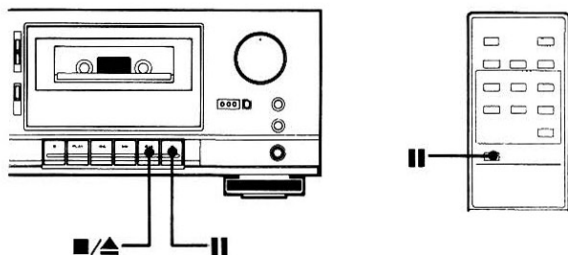
To listen to side A, then side B continuously

Set the REVERSE MODE switch as desired

- ◀▶ : To play both sides repeatedly.
- ▶▶ : To play both sides of the tape once each.
- ▶▶▶ : To play only one side of the tape.

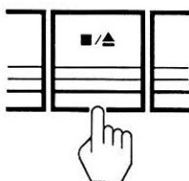


To Stop Playback



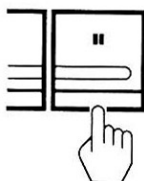
• To stop playback

Press the STOP/EJECT button.



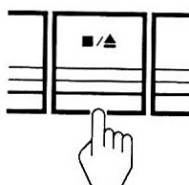
• To pause during playback

Press the pause button. To release the pause mode, press it again. If the remote control unit is used to enter the pause mode, one of the Direction indicators will blink.

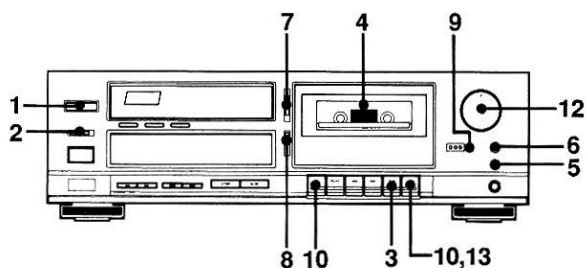


• To remove cassette

Press the STOP/EJECT button twice.

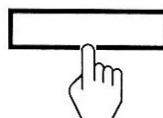


Recording

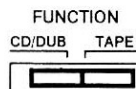


1. Press the POWER switch to ON

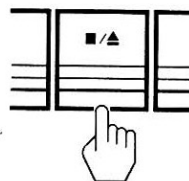
POWER



2. Set the FUNCTION select switch to the TAPE position.



3. Press the STOP/EJECT button to open the cassette holder.



4. Insert a recordable cassette into the cassette holder with its open edge facing down and side A facing toward you, then close the holder.
5. Set the TAPE SELECTOR button to the appropriate position.

TAPE SELECTOR



6. If desired, press the DOLBY NR button to switch on the DOLBY B NR system.

DOLBY NR



7. Set the REVERSE MODE switch as required.

: The same as .

: When recording on both sides (from side A to side B).

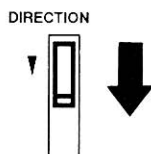
: When recording on only one side of the tape.



8. Set the DIRECTION switch to start recording in the required tape running direction. Every time the switch is operated, the Direction indicators will alternate in the multi-function display.

FWD (▶): Recording starts from the side facing toward you.

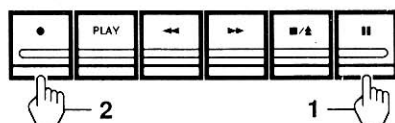
REV (◀): Recording starts from the other side.



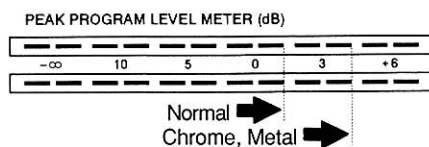
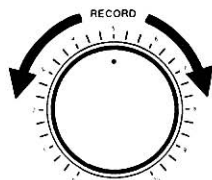
9. Press the RESET button to set the TAPE COUNTER to "000"



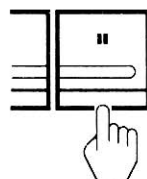
10. Press the Pause button, then the Record button to set to the record-standby mode. The RECORD and HX-PRO indicators will light.



11. Start playback of the source you want to record.
12. Adjust the recording level with the RECORD control so that the loudest sound to be recorded just makes the meters briefly reach around the "0 dB" point (for Normal tape) or the "+3 dB" point (for Chrome and Metal tapes).

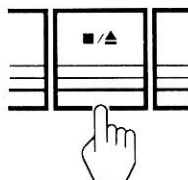


13. Press the Pause button again to start recording.



To Stop Recording

Press the STOP/EJECT button.



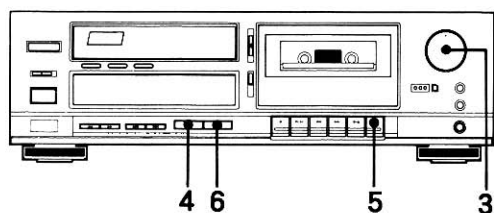
CAUTION:

Recording pre-recorded tapes, records, or other published or broadcast material may infringe copyright laws. Check before recording.

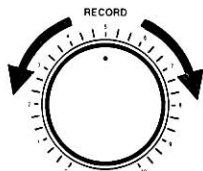
Erasing

A previously recorded tape will be automatically erased when you make a new recording on it. Alternatively, it can be erased by "recording" on it with the RECORD level control set to "0".

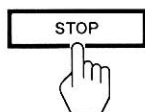
SYNC DUBBING OPERATION (Copying from CD Player to Cassette Deck)



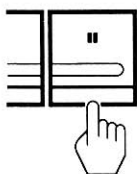
1. Prepare the cassette deck for recording: Perform the procedures in steps 1 to 10 of the "RECORDING" section on page 15.
2. Start playing back the CD: Perform the procedures in steps 2 to 7 of the "Basic Operation" section on page 9.
3. Adjust the recording level as explained in step 12 of "RECORDING" on page 16.



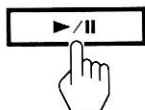
4. Press the STOP button



5. Press the Pause button to release the pause mode.

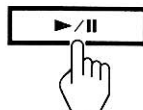


6. Press the Play/Pause button. The moment the disc starts playing, the cassette deck starts recording.



To Stop Playback Midway

Press the Play/Pause button. Both the disc and the cassette will stop.



• To dub in the required order

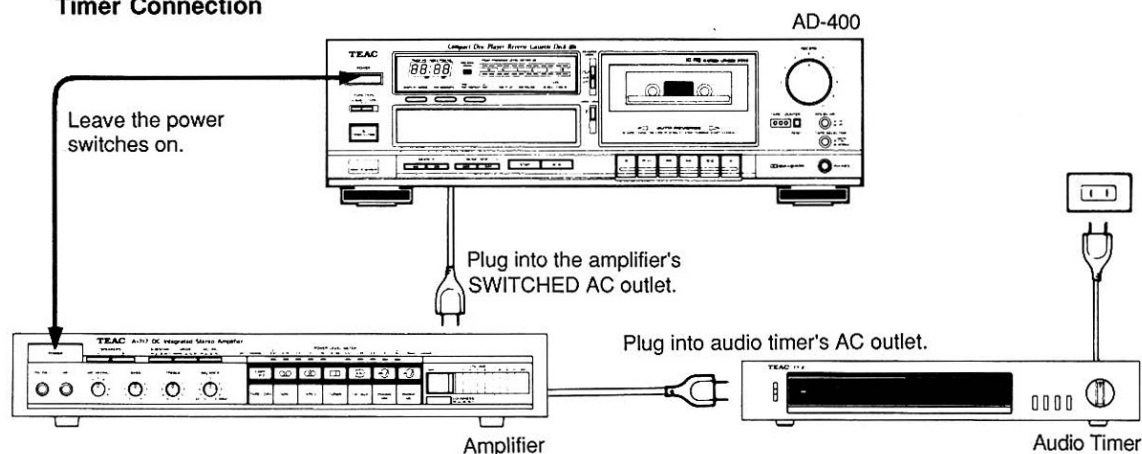
Before step 6, add the programming procedure as explained on page 13.

• When CD playback finishes...

The tape deck will enter the pause mode when the end of the CD is reached. If the end of the cassette is reached before the end of the CD, CD playback will continue.

TIMER CONTROLLED OPERATION

Timer Connection

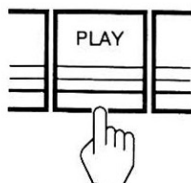


Timer Playback of CD

1. Perform the procedures in steps 1 to 6 in the "Basic Operation" section on page 9.
2. Set the audio timer to the required start (power on) and stop (power off) times. When these settings are complete, the power to all components will be switched off.
3. Playback will start automatically from first track at the preset start time.

Timer Playback of Cassette

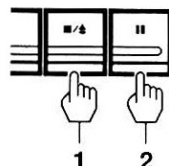
1. Perform the procedures in steps 1 to 6 in the "Playback" section on page 14. Set the DIRECTION select switch and the REVERSE MODE switch as required.
2. Set the audio timer to the required start (power on) and stop (power off) times. When these settings are complete, the power to all components will be switched off.
3. Press the PLAY button.



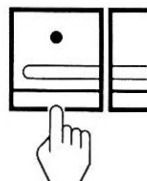
4. At the preset start time, playback will start automatically in the direction shown by the Direction indicator which is lit.

Timer Recording

1. Perform the procedures in steps 1 to 12 in the "Recording" section on page 15.
2. Press the Stop/Eject button then the Pause button to release the record-standby mode.



3. Set the audio timer to the required start (power on) and stop (power off) times. When these settings are complete, the power to all components will be switched off.
4. Press the Record button.



5. When the preset start time is reached, recording will start automatically in the direction shown by the Direction indicator which is lit.

MAINTENANCE

The heads and tape path should be cleaned and demagnetized periodically.

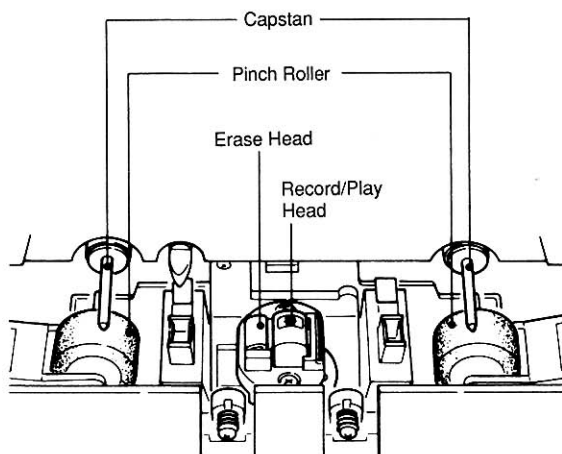
Cleaning Tape Path

- Apply head cleaning fluid* to a cotton bud or soft cloth, and lightly rub the heads, capstans and all metal parts in the tape path.
- Also clean the pinch rollers using rubber cleaning fluid*.

* Both are available in TEAC Tape Recorder Cleaning Kits HC-2 and RC-2 in the U.S.A. or TZ-261 in other areas.

Demagnetizing Heads

Be sure that the power is off, then demagnetize the heads using a TEAC E-3 demagnetizer. For details of its use, read its instructions.



DOLBY HX PRO

Dolby HX Pro is an "active bias" technique that can improve the quality of audio tape recordings. High-level high frequencies can be recorded more accurately, without sacrificing the signal-to-noise ratio, while such side effects of tape saturation as distortion are reduced.

What Is Bias?

Bias is a very high-frequency signal generated within a tape deck and recorded on the tape simultaneously with the program material. This inaudible signal allows low noise, low distortion recording and a flat frequency response. Different magnetic tape formulations require different amounts of bias for optimum performance. If the bias level is too high, the high-frequency Maximum Output Level (MOL) decreases.

The Problem of Self-Bias

Unfortunately, the bias level is often influenced by the signal being recorded. The high frequency components of some music act as bias. This unpredictable source of bias is added to the existing bias, resulting in a loss of high-frequency response. As the high-frequency contents of the signal increase, the ability of the recorder to record high frequencies (MOL) decreases. This phenomenon is called self-biasing.

The Dolby HX Pro Solution

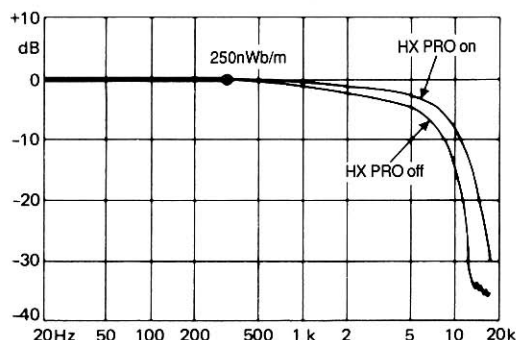
Dolby HX Pro monitors the high-frequency contents of the program and adjusts the recorder's bias

oscillator to maintain a constant total bias level. The result is improved high-frequency response and lower distortion. Depending on the type of tape, the improvement in headroom (dynamic range) can be 6 dB or more.

The Benefits

With Dolby HX Pro, it is easier to make more accurate recordings of music which contains high-level high frequency components. The improvement is similar to that of high-performance tape over conventional tape, and regardless of the type of tape used, the results will sound better.

Most important of all, Dolby HX Pro requires no decoding process. Once a tape is recorded with it, the improvement will be realized when playing the tape back on any machine.



Example of improved frequency response using Dolby HX Pro

SPECIFICATIONS

COMPACT DISC PLAYER SECTION

AUDIO

Number of Channels: 2
Frequency Response: 2 - 20,000 Hz $\pm$ 0.5 dB
Signal-to-Noise Ratio: 95 dB
Dynamic Range: 95 dB
Harmonic Distortion: 0.008% (CD out, 1 kHz)
0.02% (Line out, 1 kHz)

Wow and Flutter:

Unmeasurable (Quartz accuracy)

Channel Separation: 95 dB

Output: 2 Vrms

PICKUP

Type: Optical 3-beam laser pickup

Object Lens Drive System: 2-dimensional parallel drive

Laser Type: AlGaAs type semiconductor laser

Wavelength: 780 nm

SIGNAL FORMAT

D/A Converter: 16-bit linear/channel

Error Correction: CIRC (Cross-Interleaved Reed-Solomon Code)

Sampling Frequency: 44.1 kHz

Channel Modulation Code:

EFM (Eight-to-Fourteen Modulation)

Channel Bit Rate: 4.3218 Mb/sec

Filter: 18-bit 8-times oversampling digital filter + 3rd order analog filter

DISC

Type: Compact disc

Playing Time: Approx. 60 min./Approx. 20 min.

Diameter: 120 mm/80 mm

Thickness: 1.2 mm

Scanning Velocity: 1.2 - 1.4 m/sec.

Track Pitch: 1.6 μ m

CASSETTE DECK SECTION

Track System: 4-track 2-channel stereo

Heads: 2; 1 Erase, 1 Record/playback (rotary)

Type of Tape: Cassette tape C-60 and C-90 (Philips type)

Tape Speed: 4.76 cm/sec. (1-7/8 ips)

Motor: 1 DC servo motor

Wow and Flutter (WRMS): 0.08%

Frequency Response (Overall, -20 dB):

30 - 18,000 Hz, Metal

30 - 18,000 Hz, CrO₂

30 - 17,000 Hz, Normal

Signal-to-Noise Ratio (Overall):

59 dB (3% THD level, weighted)

69 dB (Dolby B NR in, over 5 kHz)

Fast Winding Time: Approx. 120 seconds for C-60

Inputs: Line; 87 mV, 50 k ohms

Outputs: Line; 0.46 V for load impedance of 50 k ohms or more

Headphones; 8 ohms

GENERAL

Power Requirements: 120/220/240 V AC,

50/60 Hz (General Export model)

120 V AC, 60 Hz (U.S.A./Canada model)

230 V AC, 50 Hz (Europe model)

240 V AC, 50 Hz (U.K./Australia model)

Power Consumption: 15 W

Dimensions (W x H x D): 435 x 132 x 285 mm

(17-1/8" x 5-3/16" x 11-1/4")

Weight (net): 4.9 kg (10.9 lbs)

Standard Accessories:

Input-output connection cord; Wireless remote control unit (RC-355), Batteries (SUM-3, "AA", "R6" type x 2)

- Cassette deck specifications were determined using metal tape except as noted.
- Improvements may result in specifications or feature changes without notice.
- Photos and illustrations may differ slightly from production models.